

REMARKS

The Applicant has amended claims 12, 14, 21, 24, 26, 32, 33, 36 and 37; has canceled claims 13 and 38 and added new claims 42-48. Claims 12, 26 and 36 have been amended to more clearly define the invention and distinguish the same from the cited art. Claims 13 and 38 have been canceled because the limitations of these claims are now included in claims 12 and 36 respectively. The dependencies of claims 14, 21 and 24 have been changed. The preamble of claims 32 and 33 have been changed to bring them into conformity with claims 27 to 31. Claim 37 has been amended to clarify limitations within the claim. New Claims 42-48 have been added. Claim 42 add the limitation that the heat shield and vibration insulator are frictionally engaged with each other. Support for this claim may be found on page 10, lines 3-11 of the specification. Claims 43-48 cover the limitation of the heat shield being manufactured from a material that is flexible and which therefore allows the heat shield to flex, stretch and contract in unison with the vibration insulator. Support for these claims may be found on page 8, line 3 of the specification.

The Examiner rejected claims 12-18, 21, 24-33 and 35-36 under 35 U.S.C. 103(a) as being unpatentable over Steensen (2,267,431). In response, the Applicant has canceled claim 13 as stated above and has changed the dependency of both claims 21 and 24 from claim 12 to claim 19 and 23 respectively. Both claims 19 and 23 have been allowed and consequently the Applicant submits that claims 21, 24 and 25 are now allowable as being dependent upon an allowed base claim. The claims which

remain rejected under 35 U.S.C. 103(a) are therefore claims 12, 14-18, 26-33, 35 and 36. **The Examiner stated** that in Figs. 1-3, Steensen discloses a flexible exhaust pipe suspension for a vehicle exhaust system comprising a vibration insulator (10) having an outer surface, a front surface and a rear surface (Fig. 3). Furthermore, the Examiner stated that Steensen also discloses a heat shield (12) having a cup-shaped body defining a chamber including an inner surface (Fig.2) and that the heat shield and the vibration insulator are complementary shaped. When the vibration insulator is held within the chamber, at least a portion of the outer surface and front surface lie in contact with the inner surface of the chamber. The Examiner further stated that the heat shield is adapted to thermally insulate the vibration insulator from an internal heat. (The Applicant presumes that the Examiner intended to state that the heat shield (12) is adapted to thermally insulate the vibration insulator from an external heat source and has responded as though this is the statement the Examiner made.) The Examiner further stated that it would be a matter related to "the choice of ornamentation producing no mechanical effect and take advantage of that select material such as heat resistant, long last and flexible or advantage considered to constitute the invention are considered obvious and do not impart patentability".

In response to the Examiner's rejection, Applicant incorporates the arguments presented in previous response and again strongly disagrees with the Examiner's position that Steensen discloses a heat shield (12). A shield, according to the Oxford Reference Dictionary, is "an object, structure, or layer of material that protects something". One would therefore presume that a heat shield would be an object,

structure, or layer of material that protects something from the effects of heat. Applicant respectfully submits that Steensen's cap (12) would not act as a heat shield, but would, in fact, act as a heat sink. Steensen's cap is manufactured from metal, which material is known to be a very good conductor of heat, especially if the metal lies in direct contact with both the heat source and another component. Steensen's cap (12) lies in direct contact with the body (10) that it is supposedly shielding and is directly connected to the heat source. Steensen discloses that cap (12) is in direct contact or integrally formed with a collet (40) (Fig. 4) or a knuckle piece (50) (Fig. 5). Collet (40) or knuckle piece (50) are, in turn, in direct contact with U-clamp (41) or (51) respectively, and the U-clamp is in direct contact with the exhaust pipe (20). Heat from the exhaust pipe (20) will therefore be conducted through clamp (41 or 51) to the collet (41) or knuckle piece (50) and then into cap (12). Applicant furthermore submits that cap (12), because it is made from metal, would conduct that heat from the exhaust pipe (20) directly to the resilient body (10). This heat transmission would be further enhanced because body (10) may be reinforced with a wire mesh. This wire mesh would aid in transmitting the heat from cap (12) through the body (10) and this would more likely hasten the deterioration of body (10) instead of slowing down its deterioration. Applicant therefore respectfully submits that cap (12) of Steensen is not a heat shield inasmuch as it is not an object, structure or layer of material that protects body (10) from the effects of heat from the exhaust pipe 20. It is, in fact, the opposite of a heat shield - it is a heat conductor. Applicant therefore respectfully submits that the Steensen device does not fall within the limitations of independent claims 12, 26 and 36 as it does not include a

heat shield. **Furthermore, Applicant strongly disagrees with the Examiner's statements that it would be a matter related to choice of ornamentation producing no mechanical effect to select the material from which Applicant's heat shield is manufactured.** The very reason Applicant has applied the heat shield to the vibration insulator and has selected the material from which the heat shield is manufactured is to obtain the mechanical effect of thermally shielding the vibration insulator from the heat generated by the vehicle exhaust system. It is the mechanical effect of the Applicant's heat shield that distinguishes the Applicant's device from that disclosed by Steensen - Steensen's cap is a heat conductor, Applicant's heat shield is a thermal protector.

Applicant has amended claims 12, 26 and 36 to more clearly indicate that the heat shield is formed from a heat resistant material that thermally insulates the vibration insulator from heat generated by the exhaust system. Applicant respectfully submits that this limitation clearly differentiates the claimed invention from Steensen in that Steensen teaches a heat conductive material that transmits heat from the exhaust system to the vibration insulator - the very opposite effect to that of Applicant's device a heat resistant material that thermally insulates components. Applicant therefore respectfully submits that Claims 12, 14-18, 21, 24-33 and 35 are patentable over Steensen. Applicant respectfully requests the withdrawal of the rejection of these claims under 35 U.S.C. 103(a) as being unpatentable over Steensen.

The Examiner alternatively rejected claims 12-18, 21, 24-33 and 35-36 under 35 U.S.C. 103(a) as being unpatentable over Steensen in view of Arciero et al

(6,572,070). In response, Applicant incorporates the above argument and arguments presented in previous office action responses and relating to component 12 in the Steensen patent. After the above noted amendments, the claims remaining rejected under this section are claims 12, 14-18, 26-33 and 35-36. The Examiner stated in the action that Steensen fails to show the heat shield as being made from a flexible, heat resistant material such as an elastomer, a silicon elastomer etc. According to the Examiner, Arciero et al teaches in Figs. 9 and 10, an exhaust system hanger isolator comprising a bracket (52) including a heat shield (84). The Examiner stated that the bracket (52) could be a high temperature plastic and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the flexible exhaust pipe suspension of Steensen with the exhaust system hanger isolator comprising a bracket including a heat shield as taught by Arciero et al. In response, Applicant submits that while Arciero et al does teach the provision of a heat shield, neither Steensen nor Arciero et al teach, disclose or suggest that the heat shield should be flexible. Applicant respectfully submits that both Steensen and Arciero disclose a rigid component, and that neither reference teaches the use of a flexible component - that suggestion comes entirely from Applicant's specification. The Steensen reference discloses in column 2, line 38 that cap (12) is of "considerable rigidity". In the Arciero patent, column 1, lines 43-50, it is stated:

"The bracket may be a single piece stamping which may include an integral heat shield formed as part of the single piece to shield the grommets from exhaust system heat, thereby further enabling the use of alternative grommet materials. The bracket is preferably a stamped galvanized steel such as SAE 1008 or SAE 1018. Alternatively, the

bracket could be a sintered metal or high temperature plastic.” (Emphasis added)

and in column 3, lines 16-27:

“Referring to Figs. 9 and 10, an isolator 80 is shown in accordance with a first alternative embodiment of the invention. This embodiment is in all other respect similar to that described above with reference to Figs. 1-8, except that the bracket 82 includes an integral heat shield 84 formed therewith integrally in a metal stamping operation.” (Emphasis added)

Applicant respectfully submits that both of these passages from Arciero teach that the heat shield is integrally formed with the bracket and that the bracket is stamped out during manufacture. The manufacturing process implies that both the bracket and the heat shield are rigid in nature. Furthermore, Arciero et al discloses that the bracket is preferably made from galvanized steel but can alternatively be made from sintered metal or high temperature plastic. It must be kept in mind that the bracket is serving as a support for the exhaust and it could not and would not function in this role if it were manufactured from a flexible material, especially a material that deforms and stretches as easily as the product taught by Applicant. Applicant’s material likely would fail if a weight such as an exhaust system was connected to it. It can be inferred from Arciero’s patent that since the bracket and heat shield are manufactured as an integral unit and the bracket cannot be made from a flexible material, then neither can the heat shield be manufactured from a flexible material - it has to be manufactured from a material that allows the bracket to perform its intended function. Applicant therefore respectfully submits that the inclusion in claims 12, 26 and 36 that the heat shield is a flexible, non-metallic device formed from a heat resistant material, sufficiently distinguishes between

Applicant's device and the combination of Steensen and Arciero et al. Applicant therefore respectfully requests the withdrawal of the rejection of claims 12, 14-18, 21, 24-33 and 35-36 under 35 U.S.C. 103(a) as being unpatentable over Steensen in view of Arciero et al.

The Examiner allowed claims 19-20, 23 and 40-41. The Examiner further objected to claims 22 and 37-39 as being dependent upon a rejected base claim, but indicated that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicant has amended the dependency of claim 21 from claim 12 to claim 20 and therefore indirectly to allowed claim 19. Claim 22 depends from claim 21. Consequently, the amendment to the dependency of claim 21 now allows claim 22 to depend indirectly from allowed claim 19. Applicant therefore respectfully submits that this amendment brings claim 22 into condition for allowance.

With respect to claims 37-39, these claims depend from claim 36 which has been amended to include the limitations that the heat shield is flexible and is made from a non-metallic heat resistant material that thermally insulates the vibration insulator from the exhaust system. As argued above, the prior art does not teach, disclose or suggest the limitations claimed in claim 36. Applicant therefore respectfully suggests that claim 36 is allowable and that consequently claims 37-39 are also allowable. Should the Examiner disagree with the Applicant's position relating to claim 36, claims 37-39 will be rewritten in independent form.

New claim 42 depends on allowed claim 19 and Applicant therefore respectfully

submits that the claim is allowable.

Applicant respectfully submits that both Steensen and Arciero et al disclose a rigid component for connection to the vibration insulator. Applicant submits that these rigid components are unable to flex, stretch or contract along with vibration insulator as it flexes, stretches or contracts with the vehicle exhaust system. Applicant, on the other hand, discloses a heat shield that does flex with the vibration insulator. Applicant respectfully submits that claims 43-48 covering this limitation are therefore allowable.

Applicant requests reconsideration of claims 12, 14-18, 26-33 and 35-39 and consideration of new claims 42-48. Applicant acknowledges that claims 19, 20, 23, 40 and 41 are allowed.

If the Examiner believes a conversation with the undersigned attorney could be of assistance in resolving any outstanding matters, they should not hesitate to contact the undersigned attorney at (330) 244-1174.

Respectfully submitted at Canton, Ohio this 17th day of May, 2004.

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